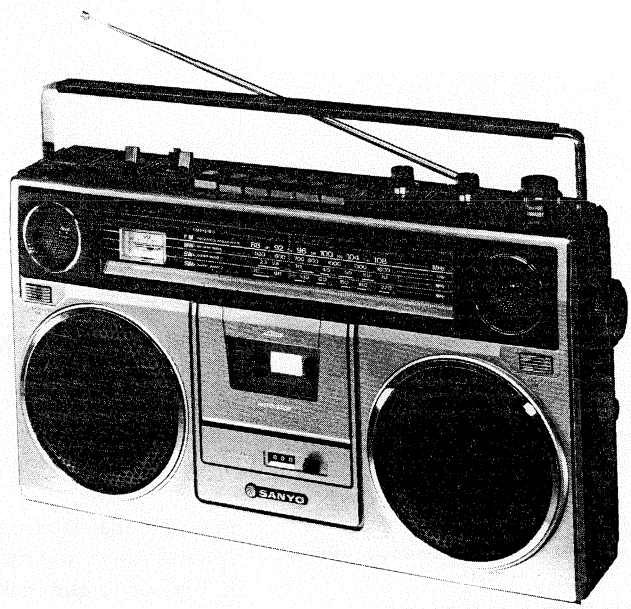
SERVICE MANUAL

CASSETTE RECORDER

SANYO

M9930K



SPECIFICATIONS

Recording system	AC bias, 1/4 track stereo
Erasing system	DC erase
Tape speed	1-7/8 ips. (4.75 cm/s)
Rewind & Fast forward time	Rewind: 1'30" (C-60) Fast forward: 3'40" (C-60)
Wow & Flutter	0.3% RMS
Power output	2W x 2 (maximum)
Frequency range	MW: 530 – 1,605kHz FM: 83.5 – 108MHz SW1: 2.3 – 7.0MHz SW2: 7.0 – 22MHz
Terminal impedance	EXT. MIC: 6k ohms REC/PB: Input 10k ohms Output 1k ohms EXT. SP: 4 ohms HEADPHONE: 8 ohms
Frequency response	50 – 12,000Hz
Power source	DC: 9V, UM–1 (D) x 6 AC: 120/200/240V 50/60Hz
Dimensions	18-1/6"(W) x 4-7/16"(D) x 10-7/16"(H) (458 x 111 x 265 mm)
Weight	Approx. 10 lbs. 6 ozs. (4.7kg) including batteries

* Specifications subject to change without notice.

ADJUSTMENT OF PINCH ROLLER

1. Set the unit to the PLAY mode.
2. Apply a tension gauge to the pinch roller. Read the gauge at the precise moment when the pinch roller separates from the capstan.
3. If the gauge reading is within a range of 450—650g, no adjustment is necessary. If otherwise, make adjustment by changing the force of the spring coil. (See exploded view No.15)

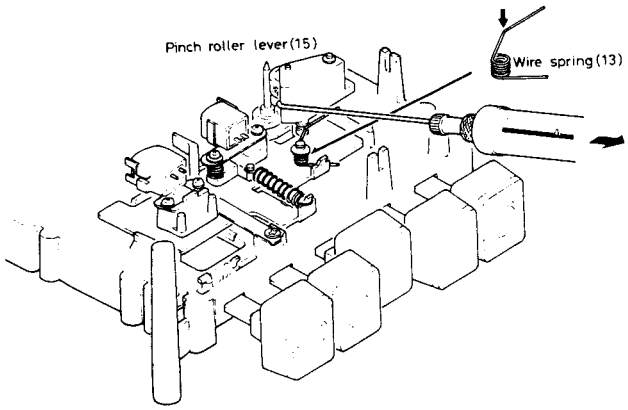


Fig.1

ADJUSTMENT OF HEAD AZIMUTH

1. Connect the unit to a power source and insert a test cassette tape (7K Hz pre-recorded) in the cassette compartment.
2. Connect an 4 ohm dummy load with the VTVM across it to the EXT. SP jack on the unit.
3. Set the unit into the PLAY mode
4. Turn the head azimuth adjusting screw until the maximum value with reading on the VTVM.
5. Fasten the adjusting screw securely by applying paint or glue.

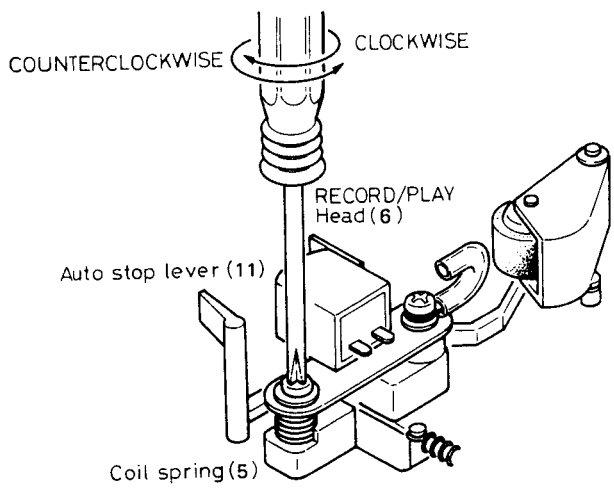


Fig.2

AUTO-STOP ADJUSTMENT

Measure the senser pressure with a tension gauge with the unit set in the playback mode. The unit should be shut off when the senser pressure stand within a range of 30 to 55 grams. (Fig. 3)

If the shut-off mechanism fails to function at a senser pressure of 30 to 55 grams, adjust the spring coil (Mechanism No. 60).

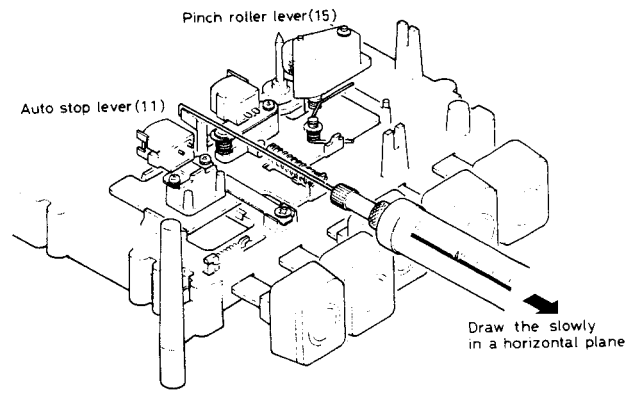


Fig.3

MECHANICAL ADJUSTMENT

To measure the torque of the tape recorder, a torque gauge (Fig. 4) and a tension gauge are necessary. To use a tension gauge, make a hole in the side of the Cassette as shown in Fig. 5.

Be careful that the tape does not rub against the edge of the Cassette; these will make correct measurement impossible.

1. **Take-up torque (measure with torque gauge)**

Play	30~65 gr/cm
Fast forward	60~110 gr/cm
Rewind	60~110 gr/cm

2. **Back tension (measure with tension gauge)**

Play	Less than 5 gr/cm
Fast forward	Less than 5 gr/cm
Rewind	Less than 5 gr/cm

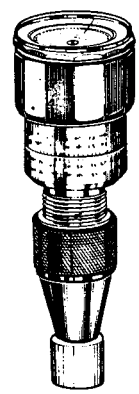


Fig.4

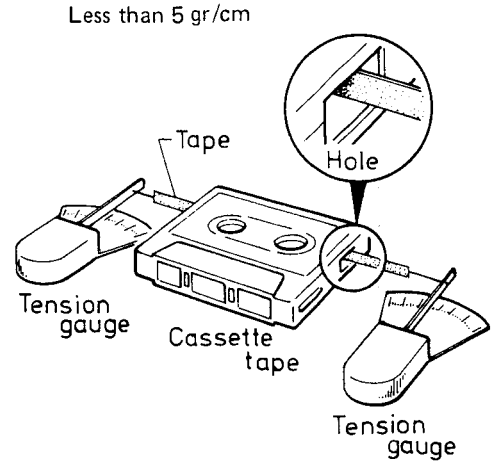
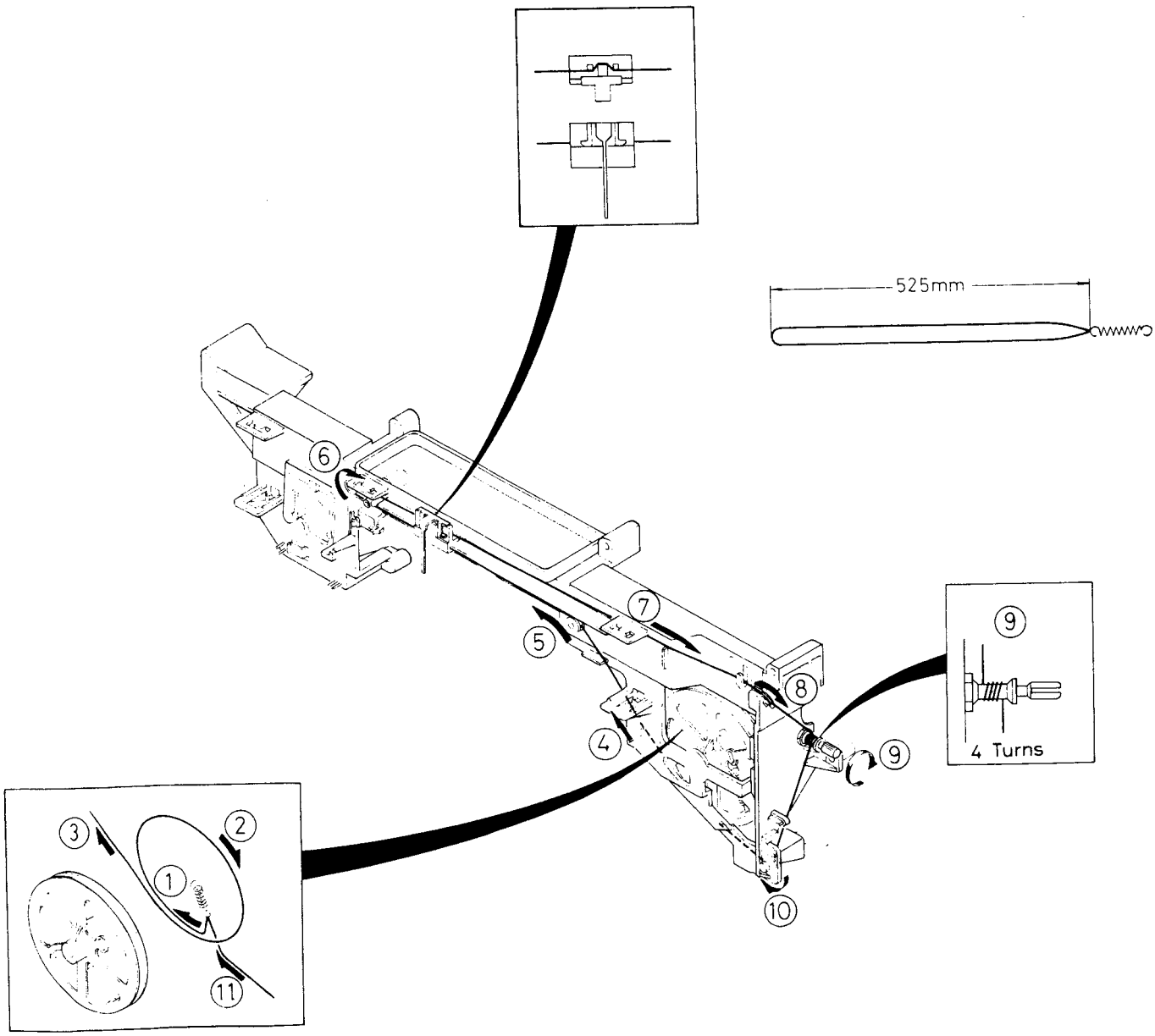
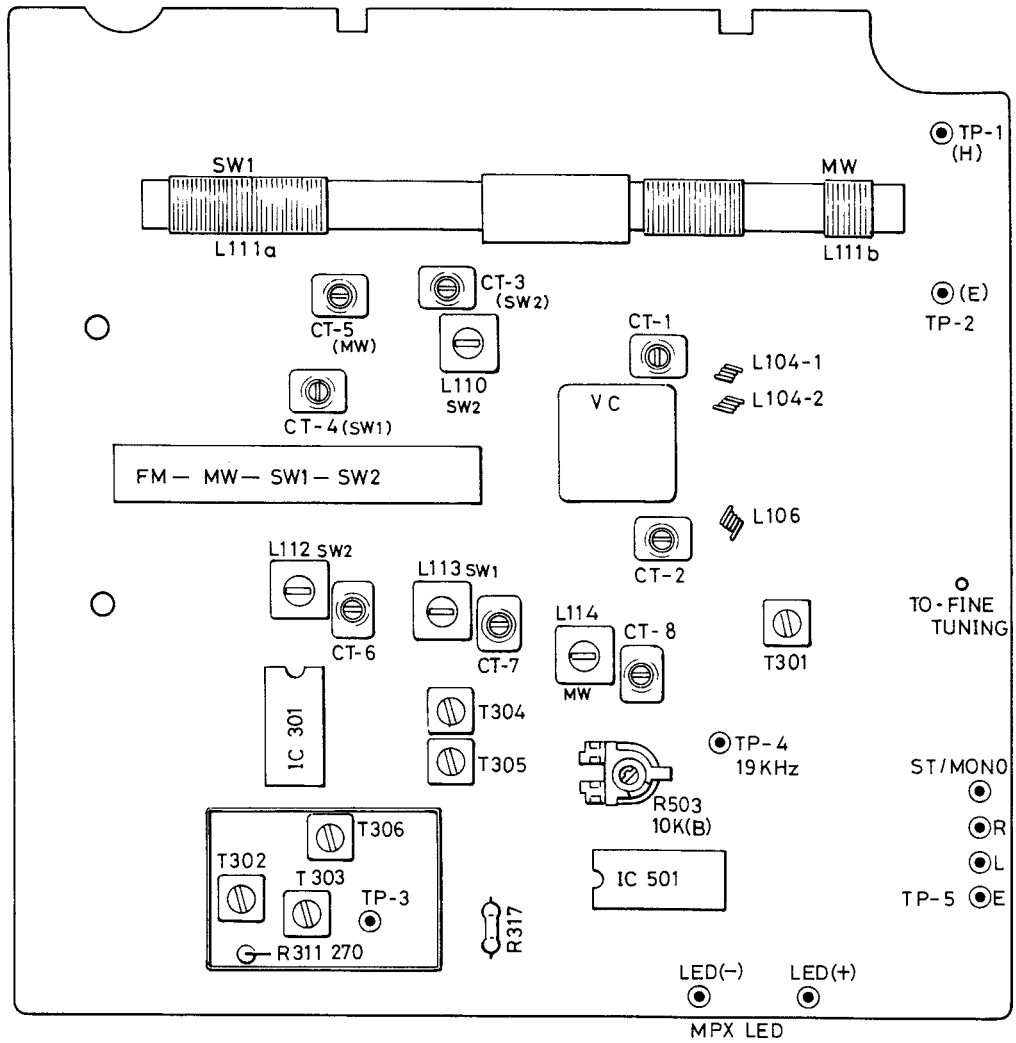


Fig.5

DIAL CORD STRINGING



PARTS LOCATION



SW2 ALIGNMENT

Step	Adjusting circuit	Connections		SG frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	O.S.C	Connect AM SG. to ANT terminal through IRE dummy.	Connect VTVM to EXT. SP. Terminals	6.8 MHz (400 Hz 30% modulation)	Low end of dial scale.	L112	MAX.
2				22.5 MHz (400 Hz 30% modulation)	High end of dial scale.	CT6	
3	ANT.	Connect AM SG. to ANT terminal through IRE dummy.	Connect VTVM to EXT. SP. terminals.	8.0 MHz (400 Hz 30% modulation)	8.0 MHz on dial scale.	L110	MAX.
4				21.0 MHz (400 Hz 30% modulation)	21.0 MHz on dial scale.	CT3	
5	Repeat adjustments.						

PREPARE:
1. Set the Fine tuning to mechanical center at cover adjust.
2. Set the dial pointer to very left line dial scale.
3. Connect signal generator to dummy antenna.
4. Use screwdriver with plastic for all adjustments.
5. Selector switch to "SW2".

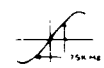
TUNER ADJUSTMENT

MW ADJUSTMENT

Step	Adjusting Circuit	Connections		SG frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	I.F.T.	Connect sweep generator to Test Loop.	Connect oscilloscope to EXT. SP terminals	455 KHz (400 Hz 30% modulation)	Low end of dial scale. At position of unrequired signal.	T304,305 T306	MAX.
2	OSC.	Connect AM SG to Test Loop.	Connect VTVM to speaker terminals.	505 KHz (400 Hz 30% modulation)	Low end of dial scale	L114	MAX.
3				1650 KHz (400 Hz 30% modulation)	High end of dial scale	CT8	
4	ANT.	Connect AM SG to Test Loop.	Connect VTVM to speaker terminals.	600 KHz (400 Hz 30% modulation)	600 KHz on dial scale	L116	MAX.
5				1400 KHz (400 Hz 30% modulation)	1400 KHz on dial scale	CT5	
6	Repeat adjustments.						

PREPARE: 1. Set the dial pointer to very left line of dial scale.
2. Connect sweep generator, AM SG, VTVM and oscilloscope.
3. Selector switch to "MW".
4. Use a screwdriver with plastic grip for all adjustments.

FM ADJUSTMENT

Step	Adjusting Circuit	Connections		SG frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	I.F.	Connect sweep generator to Test point. TP1(H), TP2(E)	Connect oscilloscope to TP3 (H), Shield case (E).	10.7 MHz (0% modulation)	Near max. capacity of VC. at positon with unrequired signal.	T301,T302	Set center position of ceramic
2	Ratio Det.		Connect oscilloscope to R317(H), Shield case (E).			T303	
3	OSC.	Connect FM SG, to Test point TP1 (H), TP2 (E).	Connect VTVM to speaker terminal.	87MHz (400Hz 30% modulation)	Low end of dial scale	L106	MAX.
4				109 MHz (400 Hz 30% modulation)	High end of dial scale	CT2	
5	ANT.	Connect FM SG. to Test point. TP1 (H), TP2 (E).	Connect VTVM to speaker terminal.	90MHz (400Hz 30% modulation)	90 MHz on dial scale	L104-1,2	MAX.
6				106 MHz (400 Hz 30% modulation)	106 MHz on dial scale	CT1	
7	Repeat adjustments.						

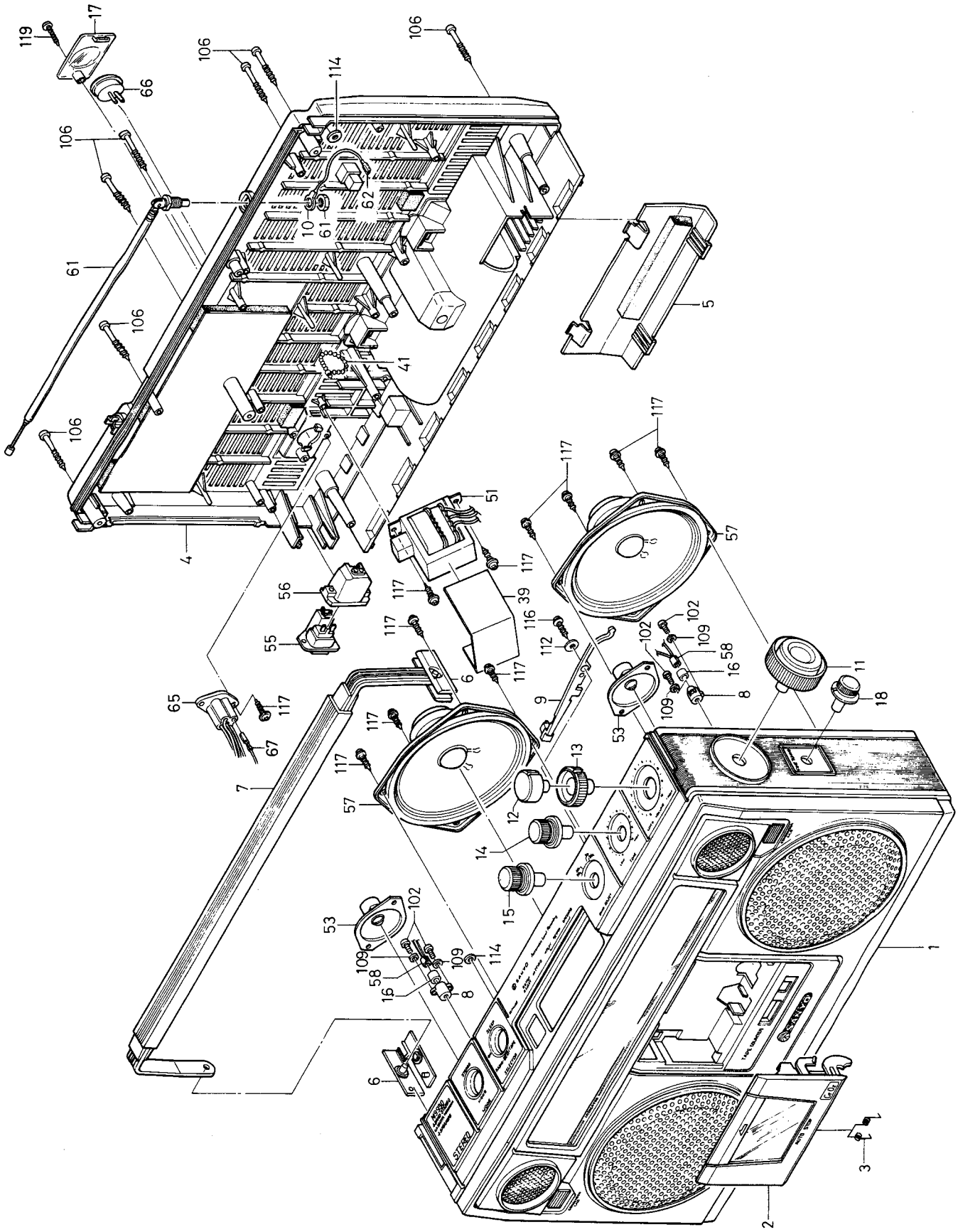
PREPARE: 1. Set the dial pointer to very left line of dial scale.
2. Connect sweep generator, FM SG, VTVM and oscilloscope. FM antenna input impedance is 75 ohm.
3. Use a screwdriver with plastic grip for all adjustments.
4. Set center position of ceramic filter.

SW1 ALIGNMENT

Step	Adjusting circuit	Connections		SG frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input Input	Output				
1	O.S.C	Connect AM SG. Connect AM SG. to ANT terminal through IRE Test Loop.	Connect VTVM to EXT. SP. terminals.	2.15 MHz (400 Hz 30% modulation)	Low end of dial scale.	L113	MAX.
2				7.3 MHz (400 Hz 30% modulation)	High end of dial scale.	CT7	
3	ANT.	Connect AM SG. to ANT terminal through IRE Test Loop	Connect VTVM to EXT. SP. terminals.	2.5 MHz (400 Hz 30% modulation)	2.5 MHz on dial scale.	L111a	MAX.
4				6.5 MHz (400 Hz 30% modulation)	6.5 MHz on dial scale.	CT4	
5	Repeat adjustments.						

PREPARE: 1. Set the Fine turing to mechanical center at cover adjust.
2. Set the dial pointer to very left line dial scale.
3. Use screwdriver with plastic for all adjustments.
4. Selector switch to "SW1".

EXPLODED VIEW (CABINET)



PARTS LIST

Ref. No.	Part No.	Description	Q'ty
PACKING			
	141-6-132T-86000	Individual carton	1
	141-6-144T-45500	Foam plastic case, Right	1
	141-6-144T-45600	Foam plastic case, Left	1
	141-6-4 10T-06500	Instruction manual	1
	141-6-231T-40600	Inner polye cover, Set	1
	141-6-231T-10250	Inner polye cover, AC cord	1
ACCESSORIES			
	4-241T-11176	Cassette tape C-12	1
	4-243T-76401	Power cord } or	1
	4-243T-13001	Power cord } or	
	4-243T-11500	Power cord } or	
	4-243T-79100	Power cord } or	
CABINET			
1	141-9-111T-09600	Cabinet Assy	1
2	141-9-124T-09600	Top lid Assy	1
3	141-2-855T-19700	Spring coil	1
4	141-2-126T-09200	Back lid Assy	1
5	141-9-128T-03500	Battery lid Assy	1
6	141-2-271T-14300	Bracket handle	2
7	141-0-171T-08700	Handle Assy	1
8	141-2-385T-02201	Bracket MIC	2
9	141-2-742T-10500	Lever, Top lid	1
10	123-2-472R-11100	Lug, Rod ANT	3
11	141-2-163T-45500	Rotary kob, Tuning	1
12	141-2-163T-45600	Rotary knob, VR	1
13	141-2-163T-45700	Rotary knob, VR	1
14	141-9-163T-04100	Rotary knob Assy, Tone	1
15	141-9-163T-04101	Rotary knob Assy, Band select	1
16	141-2-385T-02600	Bracket	2
17	141-2-132T-03800	Sign window, Voltage select	1
18	141-2-163T-44500	Rotary knob, Fine Turning	1
CHASSIS			
20	141-2-367T-30500	Bracket socket	1
21	123-2-566R-12000	Tuning Shaft	1
22	141-2-742T-11600	Lever R/P select	1
23	141-2-361T-13600	Bracket resister, VR	1
24	123-2-363R-10400	Bracket capacitor, VC	1
25	141-2-425T-00200	Hexagon screw, VC	1
26	141-2-742T-11700	Lever, Band select	1
27	141-9-311T-05800	Chassis Assy	1
28	141-2-853T-49100	Spring plate, R/P select	1
29	141-2-363T-06700	Brucket, capacitor	1
30	141-2-538T-08100	Draum, VC	1
31	141-2-340T-00200	Rope	1
32	141-2-851T-06300	Spring coil, Rope	1
33	141-2-661T-24600	Pulley	1
34	141-2-567T-02100	Pulley shaft	1
35	141-2-511T-12700	Pointer	1
36	141-2-513T-03300	Carriage	1
37	141-2-146T-15400	Dial scale	1
38	141-2-566T-04900	Tuning shaft Assy	1
39	141-2-322T-43800	Shield plate	1
40	141-2-447T-00200	Cushion	3
41	141-2-464T-08700	Fixer	5
42	141-2-464T-20671	Fixer	3
43	141-2-464T-21100	Fixer	1
44	141-2-472T-01001	Lug	6
45	141-2-447T-65000	Cushion 10 x 30 x 2	1
SCREW MOUNTING			
101		Pad Hd tapping screw 2.3 x 6	1
102		Pan Hd tapping screw 2.3 x 8	4
103		Pan Hd tapping screw 3 x 8	1
104		Pan Hd tapping screw 3 x 20	3
105		Pan Hd tapping screw 3 x 25	2
106		Pan Hd tapping screw 3 x 45	7
107		Hexagon Nut 3mm	1
108		Hexagon Nut 9mm	1

Ref. No.	Part No.	Description	Q'ty
SCREW MOUNTING			
109		Washer 2.5 x 5 x 0.5	4
110		Washer 3 x 8 x 1	1
111		Washer 3 x 10 x 0.5	1
112		Washer 3 x 8 x 0.5	1
113	141-2-457T-23000	Special washer	1
114	141-2-453T-01700	Washer, Fiber 3 x 10 x 1	2
115		Pan Hd Screw w/spring washer 3 x 4	1
116		Pan Hd, tapping screw w/washer 3 x 6	1
117		Pan Hd, tapping screw w/washer 3 x 8	11
118		Pan Hd, tapping screw w/washer 3 x 12	9
119		Pan Hd, tapping screw 3 x 16	1
120		Pan Hd. screw 3 x 6	1
ELECTRICAL PARTS			
51	4-251T-74471	Power trans	1
52	4-511T-08088	Meter	1
53	4-151T-25400	Speaker 4cm 4 ohm	2
54	4-235T-51300	Socket 4P Mic	1
55	4-235T-26873	Socket, AC	1
56	141-2-135T-32271	Cover, CA socket	1
57	4-151T-25200	Speaker 12cm	2
58	4-153T-10400	Microphone	2
59	4-235R-15700	Socket, Remote	1
60	123-2-411R-10900	Plate nut	1
61	4-244T-03200	Telescopic rod ANT	1
62	4-235T-34600	Socket	10
AMP PCB ASSY			
50	140-9-230T-79000	P.C board Assy, AMP	1
	4-231T-70100	Switch, Mono/stereo	1
	4-231T-70000	Switch, AT-RA-TA	1
	4-231T-72100	Switch, R/P } or	1
	4-231T-75100	Switch, R/P } or	1
	4-231T-65200	Switch, Beat	1
	4-235T-51500	Socket, Headphone	1
	4-235T-37900	Socket, Mic	1
	4-235T-38000	Socket, Mic, Ext SP x 2	3
	4-235T-33000	Socket DIN	1
	4-235T-33300	Socket DIN 5P	1
	4-258T-07100	OSC Coil	1
	4-252T-01015	Low frequency choke	2
	4-236T-10271	Plug 4P Mic	1
	4-236T-10273	Plug, 6P head	1
	4-236T-10293	Plug, 2P motor	1
SVR801	4-222T-39580	Semifixed variable resistor	1
	141-2-162T-13600	Lever knob, Stereo/Mono, Radio ON/OFF	2
IC801, 901		IC LA4112 SN	2
Q801,901, 803,903, 805,905		Transistor 2SC1740 S	6
Q804,904		Transistor 2SC1740 R	2
Q802,902		Transistor 2SC1740 S LN	2
Q701		Transistor 2SB187 RED	1
D703,704, 802,902, 803,903,		Diode 1S2473	6
D804,904		Diode DS442	2
D702		Diode DS131 A or DS132A	1
D801,901		Diode 1S188 FM1 or 1N60F	2
		(CAPACITORS)	
C709		Ceramic 47PF 50V ±10%	1
C805,905, 807,907, 830,930,		Ceramic 100PF 50V ±10%	6
C841,941		Ceramic 150PF 50V ±10%	2
C812,912		Ceramic 330PF 50V ±10%	2
C845,945, 707,708, 820,920, 844,944		Ceramic 470PF 50V ±10%	8

PARTS LIST

Ref. No.	Part No.	Description	Q'ty
AMP PCB ASSY			
C942		Ceramic 560PF 50V ±10%	1
C835,935		Ceramic 680PF 50V ±10%	2
C825,925 816,916		Ceramic 0.001μF 50V ±10%	4
C831,931		Ceramic 0.0015μF 50V ±10%	2
C713,714, 716		Ceramic 0.01μF 50V +80 −20%	3
C703,704, 701,702		Ceramic 0.022μF 50V +80−20%	4
C946,710, 836,936, 837,937, 846		Mylar 0.001μF 50V ±20%	7
C803,903		Mylar 0.0022μF 50V ±20%	2
C808,908, 809,909, 838,938		Mylar 0.01μF 50V ±20%	6
C711		Mylar 0.022μF 50V ±20%	1
C833,933		Mylar 0.15μF 50V ±20%	2
C801,901		Mylar 0.033μF 50V ±20%	2
C802,902		Al Electrolytic 0.1μF 10V +40 −20%	2
C806,906, 847,947		Al Electrolytic 0.22μF 10V +40 −20%	4
C819,919		Al Electrolytic 0.33μF 10V +40 −20%	2
C810,910, 811,911, 818,918, 814,914, 815		Electrolytic 1μF 16V	9
C824,924, 804,904		Electrolytic 2.2μF 16V	4
C826,926		Electrolytic 4.7μF 16V	2
C827,927, 712		Electrolytic 22μF 10V	3
C716,839, 939		Electrolytic 100μF 10V	3
C720		Electrolytic 100μF 16V	1
C929,843, 714,817, 917,828, 928,829		Electrolytic 220μF 10V	8
C705		Electrolytic 220μF 16V	1
C834,934, 715		Electrolytic 1000μF 10V	3
C706		Electrolytic 2200μF 16V	1
C840,940		Electrolytic 4.7μF 25V (Nonpolar)	2
		(RESISTORS)	
R807,907		Carbon 15 ohm ±10% 1/4W	2
R708		Carbon 220 ohm ±10% 1/4W	1
R825,925		Carbon 390 ohm ±10% 1/4W	2
R813		Carbon 1.5K ohm ±10% 1/4W	1
R832,932		Carbon 3.3K ohm ±10% 1/4W	2
R814,914, 809,909		Carbon 4.7K ohm ±10% 1/4W	4
R810,910		Carbon 5.6K ohm ±10% 1/4W	2
R802,902, 805,905		Carbon 6.8K ohm ±10% 1/4W	4
R811,911		Carbon 8.2K ohm ±10% 1/4W	2
R808,908		Carbon 22K ohm ±10% 1/4W	2
R710		Carbon 68K ohm ±10% 1/4W	1
R839,939		Carbon 100K ohm ±10% 1/4W	2
R935,804, 904,816, 916		Carbon 220K ohm ±10% 1/4W	5
R806,906		Carbon 820K ohm ±10% 1/4W	2
R812,912		Carbon 1M ohm ±10% 1/4W	2
R706		Carbon 270 ohm ±10% 1/4W	1
R801,901, 831,931		Carbon 3.9K ohm ±10% 1/4W	4
R838,938		Carbon 120K ohm ±10% 1/4W	2
R803,903		Carbon 2.2M ohm ±10% 1/4W	2
R705		Carbon 8.2 ohm ±10% 1/4W	1
R821,921		Carbon 56 ohm ±10% 1/4W	2

Ref. No.	Part No.	Description	Q'ty
AMP PCB ASSY			
R830,930 837,937		Carbon 100K ohm ±10% 1/4W	4
R829,929		Carbon 120 ohm ±10% 1/4W	2
R819,919		Carbon 270 ohm ±10% 1/4W	2
R818,918, 823,923		Carbon 1K ohm ±10% 1/4W	4
R701,702, 833		Carbon 2.2K ohm ±10% 1/4W	3
R704,828, 928		Carbon 6.8K ohm ±10% 1/4W	3
R703,715		Carbon 8.2K ohm ±10% 1/4W	2
R915,815		Carbon 68K ohm ±10% 1/4W	2
R817,917, 822,922		Carbon 560K ohm ±10% 1/4W	4
R711		Carbon 15 ohm ±10% 1/4W	1
TUNER PCB ASSY			
63	140-9-230T-80900	P.C. Board Assy, Tuner	1
L111	4-257T-26001	ANT Coil Assy	1
L110	4-257R-26930	ANT Coil	1
L114	4-258T-05640	OSC Coil	1
L113	4-258T-07640	OSC Coil	1
L112	4-258T-18730	OSC Coil	1
VC1~4	4-224T-10400	Variable capacitor	1
VC5	4-224R-20700	Fine Tuning	1
CT1~8	4-224R-11671	Trimmer	8
L101	4-265R-11600	VHF Coil	1
L102	4-265R-11600	VHF Coil	1
L103	4-265R-01200	VHF Coil	1
L105,115	4-265R-05000	VHF Coil	2
L106	4-265R-10500	VHF Coil	1
L107,108	4-253R-11160	RF Choke	2
L104-1	4-265R-13400	VHF Coil	1
L104-2	4-265T-02100	VHF Coil	1
L109	4-255R-10700	Choke Coil	1
T301	4-256R-20831	I.F.T	1
T302	4-256R-15131	I.F.T	1
T303	4-256R-02331	I.F.T	1
T304,305	4-256R-00131	I.F.T	2
T306	4-256R-00231	I.F.T	1
CF301	4-256T-80400 / 4-256T-80471 / 4-256T-80472 / 4-256T-80473 / 4-256T-80474	or I.F.T	1
S1	4-231T-69300	Switch	1
B101	123-2-471R-10900	Core	1
CR501,502	4-227T-01400 / 4-227T-01410	CR Pack / CR Pack or	2
R503	4-222T-39475	Semifixed variable resistor 10K-B	1
	4-222T-61100	Variable resistor, Volume	1
	4-222T-61200	Variable resistor, Tone	1
	141-2-322T-18100	Shield plate	1
	141-2-322T-18900	Shield plate	1
	141-2-322T-40300	Shield plate	1
Q101		Transistor 2SC930 ER	1
Q102,301		Transistor 2SC930 D CONV	2
D302,303		Diode 1S188 FM1	2
D301		Diode 1S188 or 1N60 AM	1
D102		Diode 1S553	1
D304		Diode YZ047A	1
D305		Diode MV11T	1
D101,103, 104,501		Diode 1S2473	4
IC501		I.C. HA11227	1
IC301		I.C. MPC1018C E or F	1
		RESISTORS	
R114		Carbon 270K ohm ±10% 1/4W	1
R318		Carbon 47K ohm ±10% 1/4W	1
R112,113, 329		Carbon 3.3K ohm ±10% 1/4W	3
R313,314, 323		Carbon 1K ohm ±10% 1/4W	3

PARTS LIST

Ref. No.	Part No.	Description	Q'ty
TUNER PCB ASSY			
R306		Carbon 560 ohm ±10% 1/4W	1
R303,307, 308		Carbon 220 ohm ±10% 1/4W	3
R304		Carbon 150 ohm ±10% 1/4W	1
R116		Carbon 82 ohm ±10% 1/4W	1
R115,518		Carbon 47 ohm ±10% 1/4W	2
R311		Carbon 270 ohm ±10% 1/4W	1
R321		Carbon 33K ohm ±10% 1/4W	1
R515		Carbon 1K ohm ±10% 1/4W	1
R310		Carbon 390 ohm ±10% 1/4W	1
R505,506		Carbon 3.3K ohm ±10% 1/4W	2
R107,836, 936		Carbon 2.2K ohm ±10% 1/4W	3
R516		Carbon 220 ohm ±10% 1/4W	1
R312		Carbon 560 ohm ±10% 1/4W	1
R325		Carbon 120 ohm ±10% 1/4W	1
R327		Carbon 1M ohm ±10% 1/4W	1
R110,326		Carbon 100K ohm ±10% 1/4W	2
R102,105, 309,319		Carbon 15K ohm ±10% 1/4W	4
R302,504		Carbon 18K ohm ±10% 1/4W	2
R330,824, 924		Carbon 15K ohm ±10% 1/4W	3
R328,517		Carbon 1K ohm ±10% 1/4W	2
R315,316, 317,504		Carbon 5.6K ohm ±10% 1/4W	4
R509,507		Carbon 5.6K ohm ±10% 1/4W	2
R324,508, 510		Carbon 2.2K ohm ±10% 1/4W	3
R510,513		Carbon 1K ohm ±10% 1/4W	2
R305		Carbon 220 ohm ±10% 1/4W	1
R101,104		Carbon 470 ohm ±10% 1/4W	2
R512		Carbon 390 ohm ±10% 1/4W	1
R301		Carbon 330 ohm ±10% 1/4W	1
R108		Carbon 100 ohm ±10% 1/4W	1
R109,111, 118,331		Carbon 56 ohm ±10% 1/4W	4
R103		Carbon 33 ohm ±10% 1/4W	1
R511,322		Carbon 47 ohm ±10% 1/4W	2
R117		Carbon 68 ohm ±10% 1/4W	1
R319		Carbon 15K ohm ±10% 1/4W	1
		CAPACITORS	
C307		Ceramic 1PF 50V ±0.25PF	1
C122		Ceramic 2PF 50V ±0.25PF	1
C129		Ceramic 3PF 50V ±0.25PF	1
C304		Ceramic 4PF 50V ±0.25PF	1
C131,115		Ceramic 5PF 50V ±0.5PF	2
C109,124, 108		Ceramic 6PF 50V ±0.5PF	3
C123		Ceramic 8PF 50V ±0.5PF	1
C136		Ceramic 10PF 50V ±10%	1
C121,125		Ceramic 10PF 50V ±10%	2
C121,125		Ceramic 10PF 50V ±10%	2
C116		Ceramic 12PF 50V ±10%	1
C134		Ceramic 12PF 50V ±10%	1
C103		Ceramic 15PF 50V ±10%	1
C101,107		Ceramic 20PF 50V ±10%	2
C308		Ceramic 30PF 50V ±10%	1
C110		Ceramic 30PF 50V ±10%	1
C310,311		Ceramic 220PF 50V ±10%	2
C111		Ceramic 330PF 50V ±10%	1
C313		Ceramic 100PF 50V ±10%	1
C133		Ceramic 10PF 50V ±10%	1
C102		Ceramic 30PF 50V ±10%	1
C104		Ceramic 470PF 50V ±10%	1
C105,106		Ceramic 0.001μF 50V ±10%	2
C303		Ceramic 0.01μF 50V +80 −20%	1
C113,114, 301		Ceramic 0.01μF 50V +80 −20%	3
C331,314, 320		Ceramic 0.022μF 50V +80 −20%	3
C328		Ceramic 0.022μF 50V +80 −20%	1
C117,326		Ceramic 0.047μF 50V +80 −20%	2
C118		BC-CON 0.1μF 12V ±20%	1
C332,333		Ceramic 0.022μF 50V +80 −20%	2
C315		Ceramic 0.01μF 50V +80 −20%	1

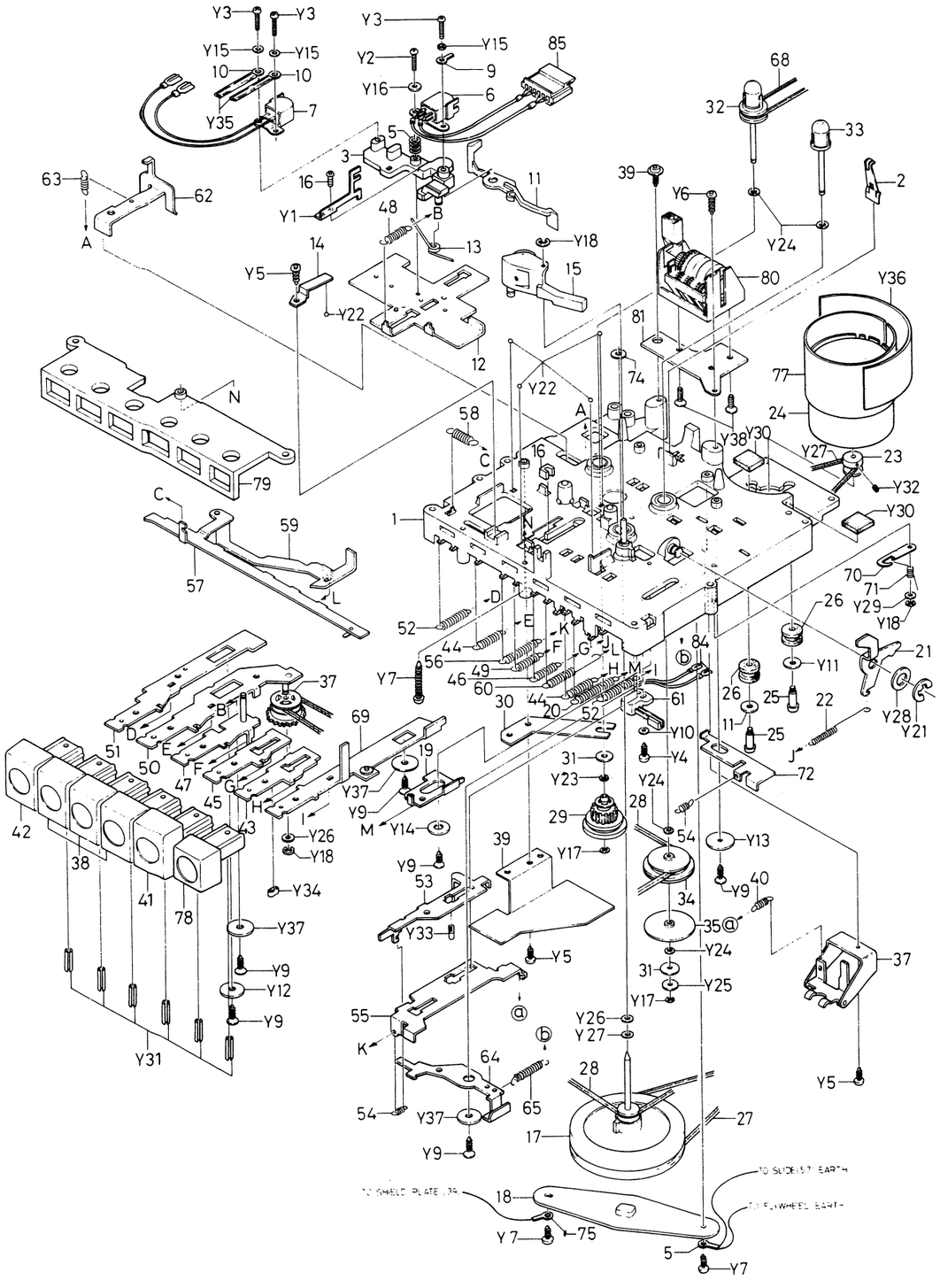
Ref. No.	Part No.	Description	Q'ty
TUNER PCB ASSY			
C112,120		Ceramic 0.047μF 50V +80 −20%	2
C848,948		Ceramic 0.0022μF 50V ±10%	2
C322,323,		Mylar 0.01μF 50V ±20%	2
C502,821, 921		Mylar 0.047μF 50V ±20%	3
C136,309		Mylar 0.022μF 50V ±20%	2
C329		Mylar 0.022μF 50V ±20%	1
C316,128, 823,923		Mylar 0.0033μF 50V ±20%	4
C137		Mylar 0.0047μF 50V ±20%	1
C302		Mylar 0.022μF 50V ±20%	1
C127		Mylar 0.0047μF 50V ±20%	1
C325		Mylar 0.01μF 50V ±20%	1
C305		Mylar 0.022μF 50V ±20%	1
C327		Mylar 0.022μF 50V ±20%	1
C822,922		Mylar 0.068μF 50V ±20%	2
C324,511		Electrolytic 470μF 10V	2
C319		Electrolytic 47μF 6.3V	1
C312		Electrolytic 4.7μF 6.3V	1
C317		Electrolytic 10μF 6.3V	1
C509,510		AL Electrolytic 0.1μF 10V +40 −20%	2
C503		AL Electrolytic 1μF 10V20%	1
C501		Electrolytic 10μF 10V	1
C130		Styrol 1400PF 50V ±5%	1
C506		Styrol 470PF 50V ±5%	1
C504,505		AL Electrolytic 0.22μF 16V ±20%	2
C306,321		Mylar 0.047μF 50V ±20%	2
C507,508		Mylar 0.015μF 50V ±20%	2
C512		Electrolytic 1μF 10V	1
C505		AL Electrolytic 2.2μF 16V +40 −20%	1
LED PCB ASSY			
D501	140-9-230T-81000	P.C. Board Assy, LED	1
		LED SLP 224B Red	1
	141-2-352T-21500	Spacer	1

PARTS LIST

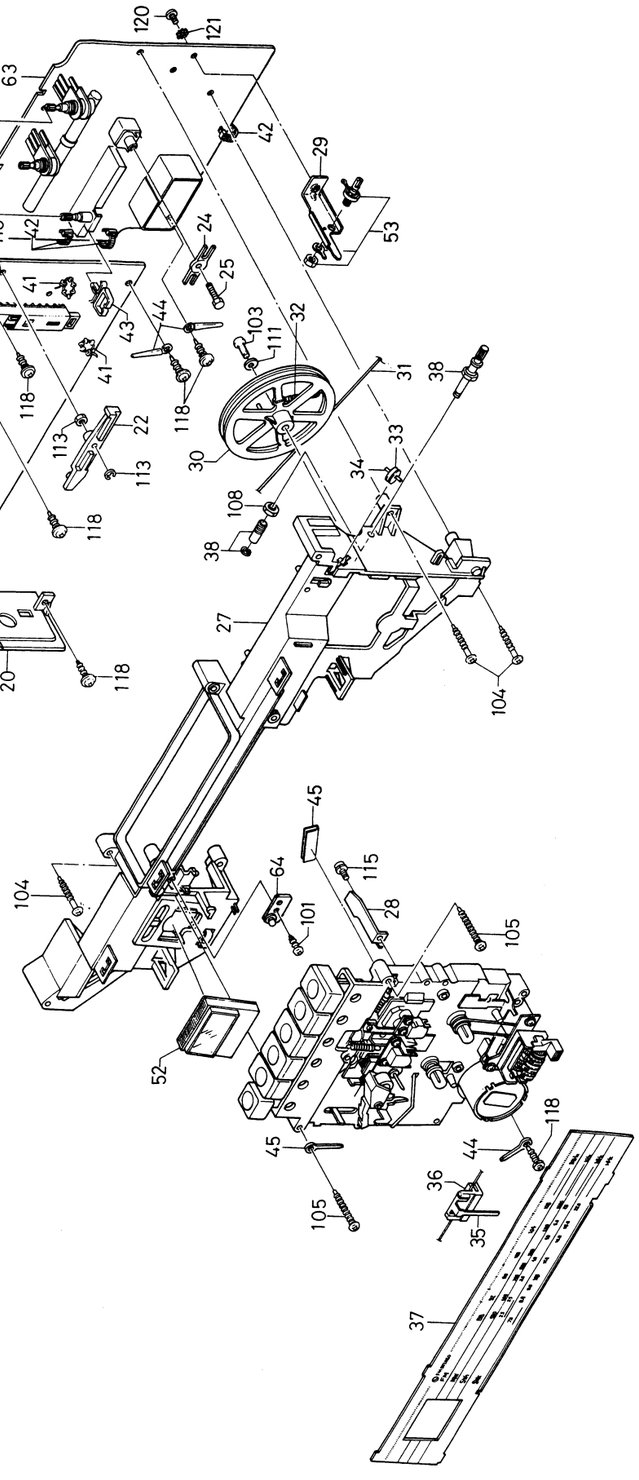
Ref. No.	Part No.	Description	Q'ty
	MECHANISM		
	141-0-311T-23491	Chassis Assy	1
2	141-2-853T-46900	Spring Plate, Cassette Plase	1
3	141-2-375T-06900	Bracket Head	1
4	141-2-821T-10700	Tape Guide	1
5	141-2-851T-82700	Spring Coil R/P Head	1
6	4-242T-21671	Head R/P	1
7	4-242T-19500	Head E	1
9	123-2-472R-00200	Lug	1
10	141-2-472T-02200	Lug	2
11	141-2-721T-03900	Lever Shaft-Off	1
12	141-2-731T-37500	Slide, Head Base	1
13	141-2-852T-35300	Spring Wire, Pinch Roller	1
14	141-2-853T-53200	Spring Plate, Head Slide	1
15	141-0-545T-02900	Lever, Pinch Roller	1
16	141-2-461T-28400	Pipe	1
17	141-0-521T-06500	Flywheel Assy	1
18	141-0-524T-02900	Bracket Flywheel Assy	1
19	141-2-742T-08200	Lever	1
20	141-2-851T-80100	Spring Coil (T012)	1
21	141-2-741T-96400	Lever, Cassette Up	1
22	141-2-855T-10800	Spring Coil	1
23	141-2-661T-65701 141-2-661T-65702 141-2-661T-65704 141-2-661T-65705 141-2-661T-65706	Pulley Pulley Pulley Pulley Pulley (or)	1
24	4-527T-08371	Motor	1
25	141-2-421T-12501	Special Screw	2
26	141-2-445T-07000	Rubber Cushion, Motor	2
27	141-2-564T-15401	Square Belt, Main	1
28	141-2-564T-16500	Belt	1
29	141-0-661T-02400	Pulley Assy, Supply	1
30	141-2-853T-48000	Spring Plate	1
31	141-2-457T-06200	Special Washer	2
32	141-2-531T-10101	Reel Plate, Supply	1
33	141-2-531T-09900	Reel Plate, Tackup	1
34	141-0-661T-02300	Pulley Assy, Tackup	1
35	141-2-661T-23001	Pulley, Tackup	1
36	141-0-741T-22100	Lever Assy	1
37	141-2-661T-22600	Pulley, REW	1
38	141-2-161T-47100	Push Button, FWD, REW, PLAY	3
39	141-2-322T-34400	Shield Plate	1
40	141-2-855T-01900 141-2-851T-96200 141-2-851T-12400	Spring Coil Spring Coil (or) Spring Coil	1
41	141-9-161T-03000	Push Button Assy, Stop	1
42	141-9-161T-03001	Push Button Assy, Rec	1
43	141-2-731T-43301	Slide, Stop	1
44	141-2-851T-73500	Spring Coil (T-433)	1
45	141-2-731T-43401	Slide, FWD	1
46	141-2-851T-93000	Spring Coil (T-434)	1
47	141-0-731T-13700	Slide Assy, PLAY	1
48	141-2-851T-91300	Spring Coil	1
49	141-2-851T-96400	Spring Coil	2
50	141-0-731T-13800	Slide Assy, REW	1
51	141-2-731T-73701	Slide, REC	1
52	141-2-851T-93000	Spring Coil	2
53	141-2-731T-43101	Slide, Brake	1
54	141-2-855T-00200	Spring Coil	2
55	141-2-731T-51101	Slide, PLAY	1
56	141-2-855T-00601	Spring Coil (T-511)	1
57	141-9-731T-14000	Slide Assy	1
58	141-2-851T-92700	Spring Coil (T-478)	1
59	141-2-741T-78400	Lever, Auto-Stop	1
60	141-2-851T-91200	Spring Coil	1
61	4-231T-61600 4-231T-59700	Switch, Power Switch Power (or)	1
62	141-2-741T-61000	Lever	1
63	141-2-851T-87701	Spring Coil (T-610)	1
64	141-2-742T-08100	Lever, Stop/Play	1
65	141-2-851T-56100	Spring Coil (T-911)	1
69	141-0-731T-14100	Slide Assy, PAUSE	1
70	141-2-614T-05200	Lever Lock, PAUSE	1
71	141-2-852T-37900	Spring Wire, (T-052)	1
72	141-2-742T-01400	Lever, PAUSE	1
74	141-2-457T-04300	Special Washer	1
75	123-2-472R-00400	Lug	3
77	141-2-322T-27100	Shield Plate	1

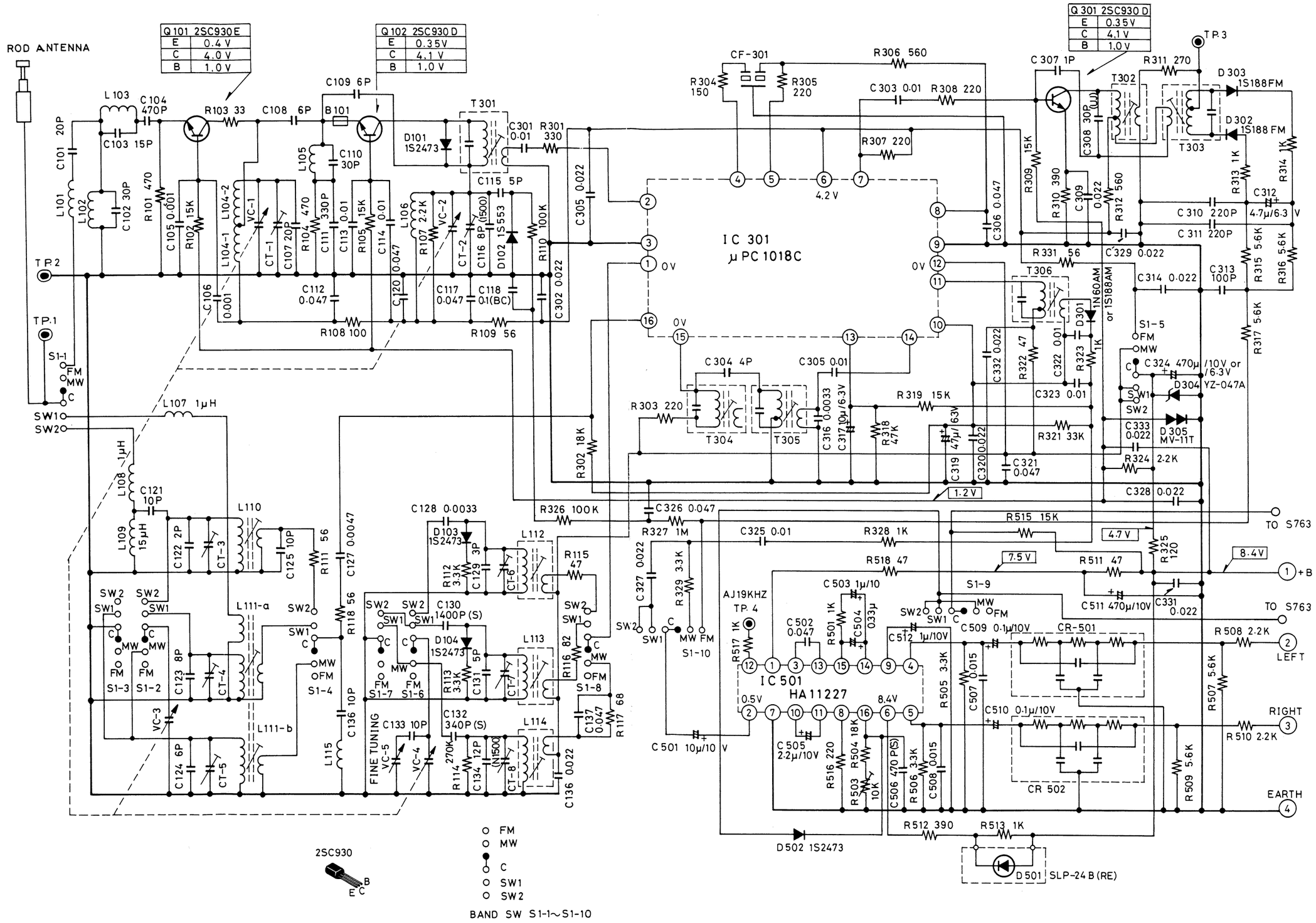
Ref. No.	Part No.	Description	Q'ty
	MECHANISM		
78	141-2-161T-47400	Push Button, PAUSE	1
79	141-2-351T-42800	Bracket Mtg.	1
80	141-2-811T-05400	Counter	1
81	141-2-812T-06300	Bracket Counter	1
82	141-2-564T-16900	Square Belt	1
83	141-2-464T-08700	Fixer	2
84	4-235T-34600	Socket Head x 2, SW x 2	4
85	4-235T-51400	Socket R/P Head Lead	1
Y1		Pan Hd., Screw 2 x 2	1
Y2		Pan Hd. Tapping Screw, W/Washer 2 x 12	1
Y3		Pan Hd. Screw 2 x 12	3
Y4		Pan Hd. Tapping Screw 3 x 20	1
Y5		Pan Hd. Tapping Screw 2.3 x 8	1
Y6		Pan Hd. Tapping Screw 3 x 6	3
Y7		Pan Hd. Tapping Screw 3 x 8	3
Y8		Pan Hd. Tapping Screw 3 x 6	2
Y9		Pan Hd. Tapping Screw 3 x 8	4
Y10		Washer 2.5 x 5 x 0.5	1
Y11		Washer 3 x 8 x 0.5	2
Y13		Flat Hd. Wood Screw 3 x 12	2
Y14		Washer 4 x 10 x 0.8	1
Y15		Spring Washer 2 x 4.4 x 0.5	3
Y17	141-2-457T-23700	Special Washer	11
Y18	141-2-457T-23000	Special Washer	3
Y21	141-2-457T-23200	Special Washer	1
Y22	141-2-345T-00400	Steel Ball	5
Y23	141-2-457T-11000	Special Washer	2
Y24	141-2-453T-30101	Washer 2.1 x 4 x 0.25 Nylon	3
Y25	141-2-453T-31200	Washer 2 x 8.5 x 0.25	1
Y26	141-2-453T-30201	Washer 2.5 x 5 x 0.25	2
Y27	141-2-453T-30202	Washer 2.6 x 4.7 x 0.5	1
Y28	141-2-453T-30802	Washer 6.2 x 9.5 x 0.5	1
Y29	141-2-453T-00800	Washer 3 x 8 x 0.5	1
Y30	141-2-447T-36000	Cushion	2
Y31	141-2-488T-01801	Pin 1.5 x 8 x 0.3	6
Y32		Headless Screw 2 x 4	1
Y33		Tube	6
Y34	141-2-490T-00500	Tube	1
Y35	141-2-490T-00600	Tube	1
Y36	141-2-184T-01900	Tape	1
Y37		Washer 3 x 12 x 1.2	3
Y38		Flat Hd. Screw 3 x 8	2
Y39		Pan Hd. Tapping Screw W/Washer 3 x 8	1

EXPLODED VIEW (MECHANISM)

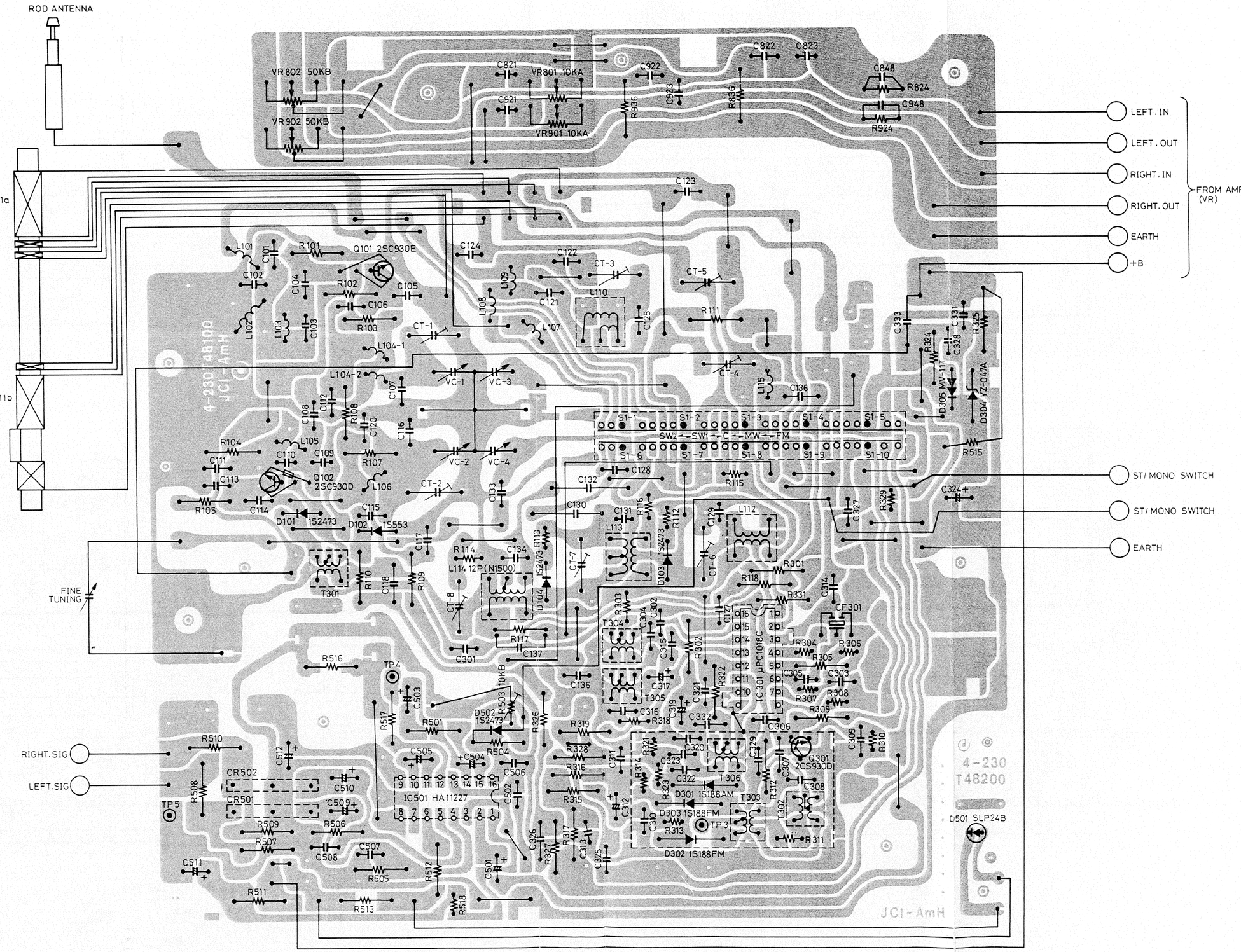


EXPLODED VIEW (CHASSIS)

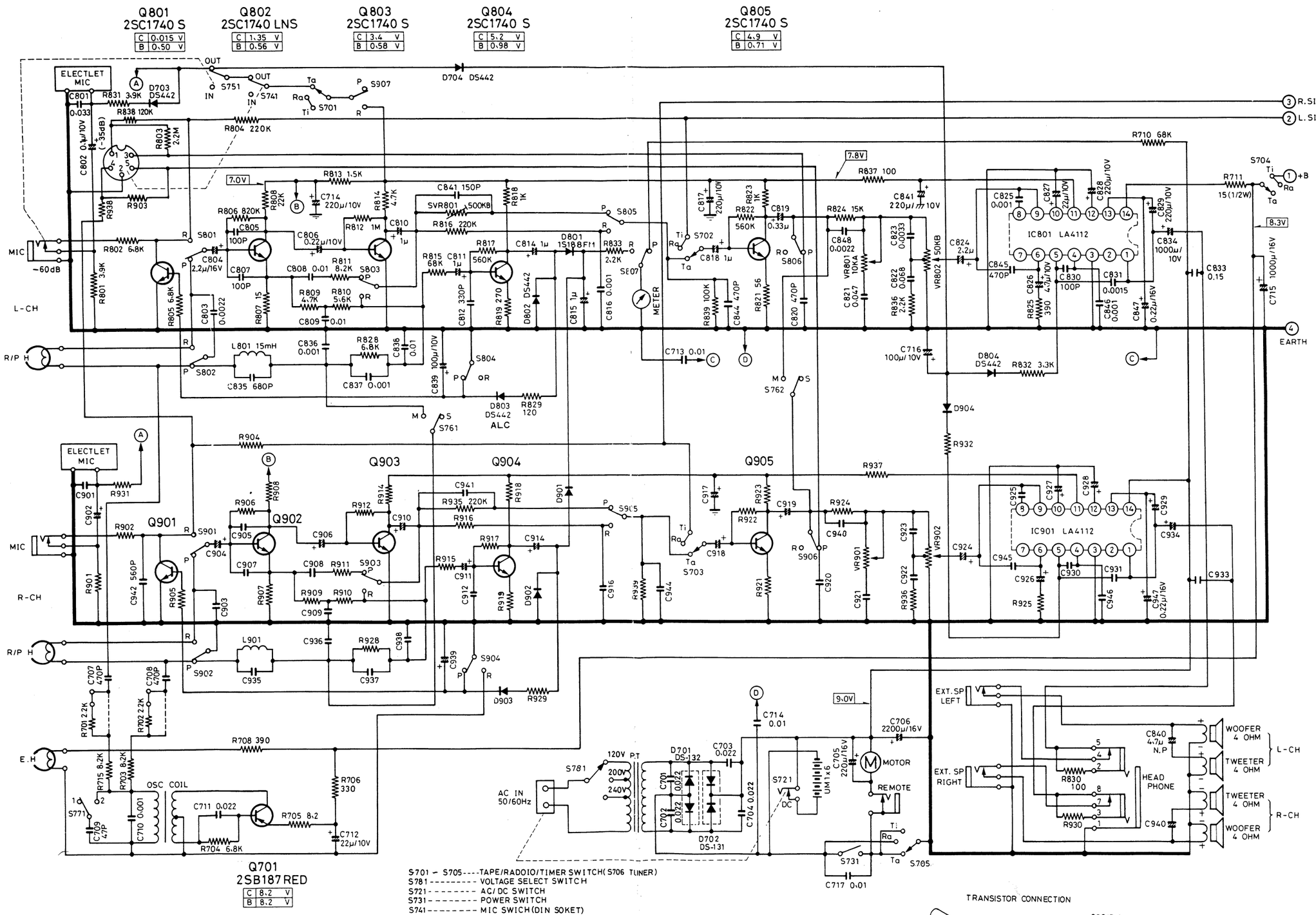



ROD ANTENNA
Q101 2SC930E
E 0.4 V
C 4.0 V
B 1.0 V
Q102 2SC930D
E 0.35 V
C 4.1 V
B 1.0 V
Q301 2SC930D
E 0.35 V
C 4.1 V
B 1.0 V
IC 301
μPC1018C
IC 501
HA11227
CF-301
T301
T302
T303
T304
T305
T306
TP.1
TP.2
TP.3
TP.4
S1-1
S1-2
S1-3
S1-4
S1-5
S1-6
S1-7
S1-8
S1-9
S1-10
SW1
SW2
FM
MW
C
L101
L102
L103
L104-1
L104-2
L105
L106
L107 1μH
L108 1μH
L109 15μH
L110
L111-a
L111-b
L112
L113
L114
L115
VC-1
VC-2
VC-3
VC-4
VC-5
CT-1
CT-2
CT-3
CT-4
CT-5
CT-6
CT-7
CT-8
FINE TUNING
D101 1S2473
D102 1S553
D103 1S2473
D104 1S2473
D301 1N60AM or 1S188AM
D302 1S188FM
D303 1S188FM
D304 YZ-047A
D305 MV-11T
D501 SLP-24B (RE)
D502 1S2473
CR-501
CR 502
AJ19KHZ
TO S763
TO S763
+B
LEFT
RIGHT
EARTH
4.2 V
1.2 V
0V
0.5V
8.4V
4.7 V
7.5 V
8.4V
2SC930
B
E C
FM
MW
C
SW1
SW2
BAND SW S1-1~S1-10

WIRING DIAGRAM (TUNER)

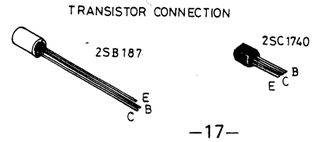


SCHEMATIC DIAGRAM (AMP)



S701 – S705----TAPE/RADDIO/TIMER SWITCH(S706 TUNER)
S781 --------- VOLTAGE SELECT SWITCH
S721 --------- AC/DC SWITCH
S731 --------- POWER SWITCH
S741 --------- MIC SWICH(DIN SOKET)
S751 --------- MIC SWICH(MIC SOKET)
S761 – S763--- MONO/STEREO SWITCH
S801 – S806
S901 – S906 ---REC/PLAY SWITCH
S771 --------- BEAT CANCEL SWITCH

TRANSISTOR CONNECTION



WIRING DIAGRAM (AMP)